

# STATE OF MONTANA

## JOB DESCRIPTION

*Montana state government is an equal opportunity employer. The State shall, upon request, provide reasonable accommodations to otherwise qualified individuals with disabilities.*

**Job Title: Systems and Operations Analyst**

**Position Number: 75014**

**Location: Helena**

**Department: Transportation**

**Division and Bureau: Maintenance/System & Ops Bureau**

**Section and Unit: n/a**

### **Job Overview:**

This position serves as the Maintenance Systems and Operations Analyst and is responsible for advanced operations project management, Information Technology, hardware research and development, and plan evaluation activities while ensuring compliance to state and federal laws. The position manages and evaluates projects during each major phase of planning, bid development, delivery; research, quality control and assurance, equipment, special item designs, methods, and specifications; and conducts professional reviews of plans for proposed and active road operations projects. Responsible for writing and distributing critical papers regarding the success or potential improvements for projects and contracts and make recommendations to active field projects underway. Takes an active role in developing the technical abilities of field personnel through training at the Maintenance Academy and Construction Training at fixed locations or travel to locations around the state to provide training. The position reports to the Systems and Operations Bureau Chief.

### **Essential Functions (Major Duties or Responsibilities):**

Operations Project Management – 50%

- Evaluates assigned System and Operations projects through field reviews during each major phase of delivery. Provides professional and technical assistance to department staff and contractors to ensure compliance with established policies, regulations, plans, and project specifications.

- Determines needs for project changes due to unexpected problems. Develops and promotes uniform contract administration measures; and evaluates project administration. Works with contractors and project staff to resolve problems.
- Oversees and evaluates proposed technology assets, software and hardware, and other aspects of plans to ensure compliance with established State and Federal contract requirements, ITS architecture, and department operations management requirements. Coordinates viable solutions with various sections, bureaus, and divisions within the department as well as staff within other agencies to identify information needs and develop responses.
- Monitors projects through inspections during each major phase of delivery and provides professional and technical assistance to department staff and contractors to ensure compliance with project plans, specifications, ITS architecture, IT and Department policies, and other regulations.
- Determines the need for project design changes due to safety, personnel, or material problems. Work with contractors and project staff to resolve problems at the lowest level possible.
- Develops alternatives and innovative approaches to complex IT operational problems (e.g., unexpected site conditions, material flaws, safety concerns, etc.).
- Provides technical oversight, advice and guidance to Districts on operation management issues to identify how they relate to project needs and activities. Conducts research into project alternatives and requirements to develop responses to identify suitable product or service alternatives. Develops changes in scope and draft clarifications and addenda.
- Plans and implements strategies for responding to emergency system and operations situations. Coordinates emergency responses, recovery, and repair/mitigation of operations' systems.
- Corresponds with state, city, and federal agencies to obtain or furnish information regarding operations' projects and MDT and federal standards and requirements ITS architecture specifications. Serves as a contact and information point for Division staff and other MDT divisions on ITS architecture standards and specifications.
- Develops and conducts analytical reports covering any or all aspects of operations review, delineating problems and recommending corrective actions. Disseminate and discuss findings with the Maintenance Administrator, Maintenance Operations Manager, Maintenance Systems and Operations Bureau Chief, field staff, and other agency personnel to initiate corrections, deliberate alternatives, and implement solutions. Reviews business processes and specifications, and interviewing project managers to isolate and identify project problems and causation.
- Provides technical advice, troubleshooting, and training in the administration of contract and ITS architecture specifications, quality assurance processes and equipment. Provides on-site assistance and trains and guides departmental employees through the technological advances in system and operations and acts as a contact for the development of statewide

policies and procedures including research and analysis of new ITS Assets practices and materials.

- Develops and administers ITS architecture contracts by developing procurement plans and working with the Engineering Division, ISD and Purchasing unit to coordinate bid solicitations and selection process,
- Monitors contracts to ensure conformance with terms and conditions of individual agreements, reviews work procedures, monitors quality of services; and performs inspections, and tests systems. Identifies and resolves errors, discrepancies, and contract deficiencies to ensure conformance with project schedules and stipulations. Responds to contractor inquiries and provides consultation and technical assistance related to policies, procedures, priorities, and other information.
- Reviews requests for change orders and provides preliminary change order approval. Determines whether proposed changes are within the scope of the original agreement; negotiates terms of change orders; calculates time and cost impacts of proposed changes; evaluates project plans and specifications for conformance with contracted terms and overall adequacy, quality, and safety; and consults with specialty work units in the department to resolve problems.
- Provides advice and guidance on the evaluation and analysis of contract claims, particularly those related operations' systems assets.
- Develops and promotes uniform contract administration measures related to ITS architecture, procedures, and other project elements to ensure full compliance with all requirements for federal aid. Monitor the effectiveness of contract administration policy and procedures and makes recommendations to improve efficiency or cost effectiveness.

### **Technology Development and Deployment – 20%**

- Research new products and application packages to identify technology to support MDT Maintenance data collection and asset management.
- Evaluate system operations equipment, applications, databases, and other systems to develop plans, recommendations, and priorities for Maintenance system projects to support division operations. Assess existing data, MDT and public information needs, alternatives for accessing and integrating data, and the resource requirements of various alternatives. Attend application development, GPS, network, database, and web site-related meetings as requested as division representative. Formulate plans for automating agency information services and develop recommendations to the Operations Manager on plan components that impact the workload of other staff or have significant budgetary impacts.
- Coordinate requirement analysis and system definition work to assist the MDT Information Services Division (ISD), Communications Bureau, and Equipment Bureau staff in determining system and operations technology development, enhancement or modification requirements and the proper methods of implementing projects within available resources.

- Coordinate the work of vendors, ISD, district personnel, and maintenance staff to successfully deploy remote data collection systems and to enhance maintenance operations and data management.
- Evaluate data collection and transmission equipment and methods to ensure adequate statewide coverage and connectivity. Determine the best systems or combinations of systems in conjunction with the Communications Bureau and coordinate deployment with technical specialists and users.
- Coordinate the development and deployment of integrated AVL applications to locate vehicles and obtain information about engine data, fuel consumption, driver data and sensor data.
- Coordinate the enhancement and expansion of the MMS through the implementation of remote data collection and automatic data collection technology. Evaluate program components and data collection requirements, implementing data collection hardware and software including mobile devices and data collection applications, and participating in the planning and modification of databases to support programs.
- Coordinate and perform systems testing including designing and documenting user acceptance testing plans and scenarios for new and modified systems to ensure they function appropriately and to identify post-implementation support requirements.
- Develop technical documentation to provide accurate and complete information and data related to system design, user training, technical programming, database models and related diagrams, and other system specifications. Establish policies, procedures, and documentation requirements for individual systems to maintain accurate records of system design, testing, implementation, and training activities.
- Respond to management, public and legislative inquiries and requests to provide information regarding and support for system and operations programs.

### **User Support and Training – 15%**

- Develop policies, manuals and standards for maintenance systems to ensure systems function effectively, meet user needs and to ensure data is compliant and meaningful.
- Provide technical guidance to ISD on user needs and facilitate the explanation of business process to users as they appear in new systems.
- Provide training on system functions and operations to ensure users properly operate systems efficiently to meet agency needs. Deliver or monitor the delivery of training by others to users and provide technical assistance as needed to users to ensure user proficiency and competency.
- Answer user inquiries on software, hardware or communications operations to resolve problems.
- Maintain records of daily transactions, problems and actions taken to identify system problems or trends. Maintain or monitor records in automated databases and track trends

and recurring problems to identify system errors. Maintain records of data communication transactions, problems and remedial actions taken and installation activities.

### **Application Development – 10%**

- Gather requirements around functionality of proposed mobile and web-based applications and translate those requirements into functional solutions and proposals for prototypes.
- Coordinate activities with the MDT Information Services Division to build application prototypes or evaluate available applications, develop frameworks to support to applications, build interfaces with a focus on usability, and create application development and deployment plans.
- Provide coordination and consultation on the design, creation, deployment, testing, and release of applications to meet MDT business and customer needs in a timely and cost-effective manner.
- Conduct research, literature review and consultation with other professionals to remain contemporary on the latest industry trends in mobile technologies. Explain technologies and solutions to technical and non-technical stakeholders and attend industry events and conferences to gather or present information.

### **Other Duties – 5%**

This position performs a variety of other operations management, contract administration, and other activities as assigned by the Systems and Operations Bureau Chief, Operations Manager, or Administrator in support of the department mission and division objectives.

### **Supervision**

The number of employees supervised is: 0

The position number for each supervised employee is: N/A

### **Physical and Environmental Demands:**

- Light lifting (less than 20 lbs)
- Performs most work in an office environment
- Travel by car to in-state project locations
- Travel to District offices or section houses to provide assistance or training

### **Knowledge, Skills and Abilities (Behaviors):**

Requires knowledge of the principles and practices of computer science including computer programs; operating systems; databases; data transmission resources; mobile technology;

computer hardware and software; systems analysis, design, testing and documentation techniques and practices; GPS and AVL systems; and mobile and web-based applications. Requires knowledge of highway maintenance operations and methods, contract administration, project management techniques, and adult training methods.

Requires skill in developing and supporting hardware and software; communicating effectively to individuals with differing levels of technical understanding; developing documentation and reports; managing projects; conducting research and analysis; developing solutions to technical problems; providing guidance, instruction and supervision; providing training and technical assistance; communicating effectively both verbally and in writing; and in maintaining effective working relationships with other employees and agencies.

Requires the ability to meet inflexible deadlines and the ability to prioritize work appropriately.

### **Minimum Qualifications (Education and Experience):**

The required knowledge and skills are typically acquired through a combination of education and experience equivalent to Bachelor's Degree in computer science, communication, business or public administration, math, science, education, engineering, or a related field.

This position requires a minimum of 4 years of experience in information systems design and management, public information, or a related field.

Certifications, licensure, or other credentials include: n/a

Alternative qualifications include: Any combination of additional related work experience and education equivalent to the minimum qualifications.

### **Special Requirements:**

*List any other special required information for this position*

☐ Fingerprint check

☐ Valid driver's license

☐ Background check

☐ Other; Describe

MFPE Union Code

Safety Responsibilities

The specific statements shown in each section of this description are not intended to be all inclusive. They represent typical elements and criteria considered necessary to perform the job successfully.

**Signatures**

My signature below indicates the statements in the job description are accurate and complete.

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<b>Immediate Supervisor</b>	<b>Title</b>	<b>Date</b>
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<b>Administrative Review</b>	<b>Title</b>	<b>Date</b>
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My signature below indicates that I have read this job description.

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<b>Employee</b>	<b>Title</b>	<b>Date</b>
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**Human Resources Review**

**Job Code Title: Business Analyst 2**

**Job Code Number: B1J102**

**Level: 2**

My signature below indicates that Human Resources has reviewed this job description for completeness and has made the following determinations:

☐ FLSA Exempt

☒ FLSA Non-Exempt

☐ Telework Available

☐ Telework Not Available

☒ Classification Complete

☐ Organizational Chart attached

**Human Resources:**

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**Signature**

**Title**

**Date**